

THESES  
ON  
TUBERCULAR LEPROSY,  
OR  
THE ELEPHANTIASIS GRÆCORUM;  
WITH SOME  
GENERAL OBSERVATIONS ON THAT DISEASE AS IT PREVAILS  
AT THE CAPE OF GOOD HOPE.

SUBMITTED TO THE MEDICAL FACULTY OF THE SENATUS ACADEMICUS  
OF THE UNIVERSITY OF EDINBURGH.

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TO

JAMES ABERCROMBIE, Esq., M.D., L.R.C.S.,  
&c., &c.,

THESE PAGES ARE DEDICATED

AS A MARK OF RESPECT AND GRATITUDE

BY HIS SON

THE AUTHOR.



ON

# TUBERCULAR LEPROSY.

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LEPROSY, which I have chosen as the subject of my Thesis, is a disease, which, in its more inveterate forms, has long been regarded as incurable ; and it is to be feared it has not received from the medical profession that attention which, from the very circumstance of its having hitherto baffled the skill of the physician in these particular forms, it might have been considered entitled to. Of late years, however, it has attracted more notice ; and many valuable papers on the subject have appeared in the medical journals of this country. I might refer to the admirable accounts of it given by Professor Simpson, of this University, in the "Edinburgh Medical and Surgical Journal" of 1841-1842, and by Mr Erasmus Wilson, of London, in the "Lancet" of 1856 ; as also to the able description of it given by Dr Kinnis, in the "Edinburgh Medical and Surgical Journal" of 1824, as it occurs at the Mauritius ; and by Dr Fiddis, more recently, in the "Edinburgh Medical Journal" of 1857, as it is met with in the island of Jamaica. These different accounts of the disease may have thrown, it is to be hoped, some little light upon its nature, and lead ultimately to a sounder and more successful mode of treatment.

Leprosy is a term of extensive signification, and although used by many writers to indicate one form of disease, may truly be said to include several. From this circumstance, and especially from the application of the term by some authors to diseases of perfectly opposite natures, considerable confusion respecting it has arisen in the various systems

of nosological arrangement. The word *Lepra* is derived from the Greek *λεπρος*, seaber; and it was intended therefore, it may be presumed, to indicate a cutaneous disease, and one of a sealy nature, which ought to be classed strictly, as has been done by writers on skin diseases of the present day under the order *Squamæ*. In this sense it may apply strictly to the leprosy of Scripture, a disease which rendered the subject of it unclean, and, in its more inveterate forms, necessitated his being excluded altogether from society. Three different forms of that disease, which it is believed was brought originally from Egypt, are described under the general name of *Berat*; one named *Boak*, meaning brightness in an inferior sense, but which was not considered contagious, nor such as to render necessary that the subject of it should be excluded from society; and two called *Tsorat*, implying venom or malignity, and which, whilst considered highly contagious, rendered it imperative on the person affected with the disease to live isolated, and be cut off from all intercourse with his fellow men. The *Vitiligo* of Celsus, which Dr Mason Good is of opinion makes the nearest approach to the leprosy of Scripture, is another cutaneous affection, to which, from the description given of it, the term *Lepra* might with propriety be applied. He describes also three varieties of it—the *αλφος* or white, the *μελας* or black, and the *λευκη* or bright white; the two former not being generally difficult of cure, whilst the latter was regarded as strictly incurable. But, besides these diseases, and many others which might be mentioned, and which, from the mere circumstance of their inveteracy, their contagious nature, or their incurability, were included under the generic name of Leprosy, we find two others more especially, which do not at all come up to the meaning of the Greek word from which that term is derived. I allude to the *Elephantiasis Arabum* and the *Elephantiasis Græcorum*, diseases, I may observe at the same time, widely different from each other, and having no features in common. The former, better known by the name of the Barbadoes swelled-leg, as being endemic in that island, although also met with in various other parts of the world, was so designated from a supposed resemblance of the limb affected, from its

huge and misshapen appearance, to that of an elephant. It is characterised by immense tumefaction and hardness of the parts affected, most commonly occurring in the limbs, a thickened state of the integuments, which usually assume a whitish colour, and become rough and swollen. It is considered by most writers to be a disease of the lymphatics, and to originate in them ; but others are of opinion, and amongst these Dr Copland, that whilst it arises most frequently from inflammation of the lymphatic system and skin, particularly in warm climates, it may also arise from inflammation and obstruction of the veins in some instances, and from extension of inflammation from the skin to the veins or lymphatics in others. The latter disease, the Elephantiasis Græcorum, or, as it may be translated, elephant skin, the subject of the present thesis, has been so called from the skin in the parts affected becoming thick, rugged, and insensible, and thus, in some measure, resembling that of the elephant. It has also been called by some of the Greek writers *Leontiasis*, from the fearful deformity of the face which occurs in the progress of the disease, and the fancied resemblance of it, from the prominence of the eyebrows and its wrinkled state, to the face of a lion. The best definition of it is given by Dr Copland in his " Dictionary of Practical Medicine." It is as follows:—" Dusky red or livid tubercles of various sizes on the face, ears, and extremities, thickened or rugous state of the skin, a diminution of its sensibility and falling off of the hair, excepting that of the scalp ; hoarse, nasal, or lost voice ; ozæna ; ulcerations of the surface, and extreme fætor." It is decidedly of a tubercular nature, and thus differing not only from the disease Leprosy, as we trace the meaning of that word, but, as I have already noticed, from the disease described by the Arabians under the same name.

With regard to the use of the term Leprosy in nosology, there seems then to have been great confusion.

In the middle ages it appears to have been applied indiscriminately to the different forms of Elephantiasis, the scaly diseases, and various other obstinate or incurable affections of the skin for which leper hospitals were established in different parts of Europe.



Of late years, however, something has been done to remedy this defect, writers on cutaneous diseases now at last drawing a line of distinction between the scaly diseases of the skin more strictly deserving the name of *Lepra*, and the different forms of *Elephantiasis*. To the form of disease under the name of Leprosy which I have chosen for my thesis, upon the authority of Willan and Bateman, I have applied the name of TUBERCULAR LEPROSY, as at once descriptive of the nature of the disease; and of *Elephantiasis Græcorum*, as the name by which it has been known from the earliest periods downwards, and attaching to that term the meaning of elephant-skin as not altogether inappropriate.

With these few prefatory remarks, I now proceed to describe the disease, noticing briefly its History, Symptoms, Causes, Diagnosis, Prognosis and Treatment. And having done so, I shall give a short account of the disease as it prevails at the Cape of Good Hope, from information which I have received from my respected father, who has been a medical practitioner in that part of the world for upwards of thirty years, and who has had consequently, it may be supposed, ample opportunities of acquiring a knowledge of it. From his observations it will appear, I think, that the disease, as it occurs at the Cape of Good Hope, is precisely the same as that which prevails in the Mauritius and in the island of Jamaica; and probably, as from further research will be shown, identically the same as is met with in most warm climates. Indeed it may perhaps be asserted, without much fear of contradiction, that of the various diseases described under the name of Leprosy, the *Elephantiasis Græcorum* was not only the form in which it appeared in Europe during the middle ages, but, as Dr Simpson has ably shown, identical with that observed in later periods, and probably the same as that met with at the present time throughout the world.

#### HISTORY OF THE DISEASE.

Tubercular Leprosy, or *Elephantiasis*, is not, as regards antiquity, to be compared to the leprosy of Scripture. Nevertheless, from Arabian and Greek writers it was evi-



dently known at a rather early period of the world's history. Celsus, who lived in the first century, and whose treatise "De Medicina" contains a general compendium of physic and surgery derived chiefly from the works of Hippocrates and Asclepiades, in his Third Book, paragraph 25th, makes the following allusion to it:—"Ignotus autem pœne in Italia, frequentissimus in quibusdam regionibus is morbus est, quem *ελεφαντιασιν* Græci vocant: isque longis admuneratur." And Galen, who lived in the second century, speaks of it as a disease common in Alexandria, owing to the full and rich manner of living and the heat of the climate. The disease, as the researches of Dr Simpson show, prevailed also extensively, it would appear, in the British Isles and in various parts of Europe during the middle ages, and has been handed down to us most correctly described by medical writers of that period. Amongst others, Guy de Chauliac, who lived in the fourteenth century, gives the following most accurate account of it: "Rotundity of the ears and eyes; thickening and tuberosity of the eyebrows, with falling off of their hair; dilatation and disfiguration of the nostrils externally, with stricture of them within, and foetidity of the lips; voice raucous and nasal; foetidity of the breath and of the whole person, fixed and horrible satyr-like aspect." And although the disease is met with at present chiefly in warm climates, and is not known in many parts of Europe where it formerly prevailed, still in some of the northern parts—I allude to Norway, Iceland, &c.—a disease either the same precisely, or one closely allied to it, is met with, under the name of *Spedalskhed*. A disease which also prevails at certain times in the Milanese territory, and one that has been described as the Crimean disease, must also, from the accounts given of it, closely resemble the disease under consideration. It would thus appear to be met with in climates diametrically opposite in regard to temperature. It is true, as has been already observed, it prevails at the present time more particularly in warm climates; but if we find, as has been already shown, the same disease exists in cold climates, it makes it difficult to trace any cause whatever for it dependent directly upon temperature.

## SYMPTOMS.

The disease, it has been observed, is usually preceded by a peculiar feeling of languor and lassitude, and an unusual depression of spirits, and is occasionally ushered in by febrile symptoms. The face is soon observed to be swelled, and slightly discoloured patches appear on different parts of it; in the coloured races these patches are somewhat darker than the surrounding skin, and in Europeans they are of a darkish red or purple colour. To these succeed gradually tubercular enlargements, ranging from the size of a pea to that of an almond, on the forehead, the cheeks, the *alæ nasi*, the lips, and the lobes of the ears, with deep furrows or wrinkles separating them. These tubercles are sometimes cutaneous, and at other times they have their seat in the cellular tissue. They are somewhat insensible when compressed, and the skin immediately covering them has usually a shining appearance. They are occasionally elevated and pointed, giving an appearance somewhat like warty excrescences. The *alæ nasi* enlarge gradually from the increase of the tubercles; the hairs on the eyebrows and the eyelashes drop out, and the voice becomes hoarse and nasal, indicating the extension of the disease to the Schneiderian membrane, and that lining the air tubes. Simultaneously with these symptoms, or shortly after their appearance, occur also swelling of the fore-arms and hands, and of the legs and feet, and the skin covering these parts becomes harsh, dry, scaly, as if cracked; and the patient complains of a sense of numbness or want of feeling. On these parts also appear tubercles similar to those on the face, which occasionally suppurate. On examining the mouth, tubercles are also frequently observed on the tongue, the inside of the cheeks, and the palate, which occasionally suppurate; and the uvula appears somewhat relaxed, and at times shrunken as if some part of it was gone. As the disease progresses, the tubercles on the face also occasionally suppurate, but usually heal again, or become for a time covered with dark crusts. The Schneiderian membrane often becomes affected with ulceration; there is an offensive fætor from the nose and mouth; and not unfrequently, as the ulceration extends, the septum

is to some extent destroyed, and one or both alæ nasi flatten or fall in. Occasionally, from continued chronic inflammation of the conjunctiva, the cornea becomes opaque and sight is destroyed. The patient also frequently suffers from troublesome ulcerations of the extreme joints of the fingers and toes, adding much to the unpleasant fætor from the mouth and nose already noticed, and rendering him an object of disgust to any one who comes near him. In this state, though sadly disfigured in appearance, and loathsome to himself and others, the patient may live for years, suffering little from actual pain, and as far as his natural appetites are concerned, still with some enjoyment of life. In the course of time, however, morbid deposits on parts important to life, and their consequent disorganization takes place; his natural vigour begins to fail; he becomes emaciated; he loses his relish for food; his voice becomes more feeble and husky; the tubercles which occasionally suppurate show no disposition to heal, and his constitution is more and more undermined by the discharge from them; and if he does not sink from mere exhaustion, he is usually cut off by inflammation of the lining membrane of the air tubes or of the substance of the lungs.

But besides the disease as described, there is another form of it affecting more particularly the extremities, from which circumstance it has been called by some "the Leprosy of the feet." It is styled by Mr Robinson, who has given the best account of it in the tenth volume of the "Medico-Chirurgical Transactions," Elephantiasis Anæsthetos, from the insensibility by which it is more particularly characterised. Dr Copland considers it a mere modification of the Tubercular Leprosy, in which the anæsthesia and the falling off of the fingers and toes are the prominent symptoms; and Mr Robinson himself admits that tubercular changes occasionally occur in the progress of the disease. Thus both seem to agree that the one form may pass insensibly into the other. But the symptoms of the anæsthetic form of the disease differ so widely from the other as to demand a separate description. In it the face, generally speaking, undergoes no particular change from general swelling or tubercular enlargement; there is no falling off of the hair; the voice

continues natural ; and in it the disease is confined more particularly to the extremities, and followed by the gradual destruction and separation of the bones of the hands and feet, and consequent deformity ensues. It begins usually with swelling of the hands and feet, followed by the appearance upon them of patches of a light colour, shining, and to some extent insensible. Such patches occasionally appear on the trunk of the body, and are characterised by the same insensibility. No pain attends these discolorations, and they are not at all elevated, but usually on a level with the skin. The general health after a time becomes impaired, the pulse slow and languid, the bowels constipated, and the patient depressed in spirits, and disinclined for any active mental or bodily exertion. As the disease progresses, the skin of the extremities undergoes a marked change. It becomes harsh, rough, and sometimes fissured ; and vesications, soon followed by ulcerations, appear over the metacarpal and metatarsal bones, and the phalanges of the fingers and toes. These spread a little, but usually extend more in depth, destroying the intervening substance ; the bones become affected, and the fingers and toes drop off, phalanx by phalanx, and sometimes also the metacarpal and metatarsal bones, the wounds usually cicatrizing for a time, after the separation of each bone. Soon, from the further destruction and separation of the bones of the hands and feet, the patient loses the power to feed himself; and can only move from place to place with extreme difficulty. Still, however, at this advanced stage, and as in the other form of the disease, he retains some enjoyment of life ; his appetite continues good, and, except at times, he is tolerably free from pain ; and although he cannot walk, he manages to creep out of his apartment, and thus to a little extent to enjoy something of the pleasure and the benefit of exercise in the open air. Gradually, however, from the frequent repetition of the ulcerative process alluded to, and the consequent heavy discharge, his constitution gives way, and if not cut off by diarrhœa or dysentery, the more usual terminations of this form of the disease, he sinks from sheer exhaustion. In this form of Elephantiasis, the tubercular sometimes supervenes, when the patient evinces the symptoms pecu-



liar to both, and whilst his sufferings are consequently greater, he sinks usually more rapidly under the disease. The same division of the disease, into *Lepra Tuberculosa* and *Anæsthetica*, has been made by Drs Danielssen and Böeck, who in 1848 were appointed commissioners by the Norwegian Government, to examine into the nature of the disease, and determine the course to be taken to limit its progress, and if possible to effect its cure; and their Report, Mr Erasmus Wilson, a high authority on skin diseases, considers the best treatise in existence on Elephantiasis. It is also the opinion of these medical men, that the tubercular form of the disease frequently supervenes on the anæsthesia. And Mr Erasmus Wilson himself says, "that though frequently distinct, and pursuing an independent course, the symptoms of the two forms may be present on the same individual, or the one may pass into the other. Moreover, parents afflicted with one form may have children in whom the other form is developed."

#### PATHOLOGY.

The pathology of Elephantiasis is involved in much obscurity. It is evidently a constitutional disease, and one dependent upon some vitiated state of the blood, followed by the deposition of tubercular matter in various textures of the body, and the morbid phenomena which succeed that change. Such is also the opinion of Mr Erasmus Wilson. He says: "Elephantiasis is a blood disease, probably originating in an animal poison, and manifesting its existence either by the deposition of a peculiar albuminous substance in the skin, mucous membrane, and other surface tissues of the body, or by affecting chiefly the nervous centres and nerves. This double mode of manifestation of the disease has caused its division into two kinds, tubercular and anæsthesian, the former being that which is characterized by deposition on the surface membranes of the body, particularly the skin, the latter that which is occasioned by deposition in and around the nervous centres and nerves. Both forms are chronic in their course, commencing insidiously, progressing slowly, and lasting for

years—sometimes terminating in spontaneous cure, and sometimes in death.” He considers the material morbid element in Elephantiasis “to be a viscous albuminous fluid, chemically composed of an excess of albumen, a small quantity of fibrine, some fat and salts.” This fluid, he conceives, “concretes into a whitish semi-opaque mass in the tubercular form of disease, and retains its transparency in the anæsthetic form. Deposited in the tissues of the affected organs, “it tends,” he says, “to their disorganization, partly by the interruption of circulation and innervation, and secondly, by the process of softening or dissolution.” When the disease is hereditary, we trace, of course, that vitiated state of the blood as inherited. But when the disease occurs where no hereditary predisposition exists, it is a mere matter of conjecture how it is produced. It is possible that, from mal-assimilation and the long continued use of unwholesome food, it is generated in the stomach, and carried into the blood. But still, what the poison itself is, or how it produces the disease, we can come to no conclusion. Nor has dissection thrown much light upon the subject. The skin, when affected, has been found much thickened, and the tubercles, when laid open, to be either solid fatty tumours, or cysts containing a glutinous fluid of a reddish colour; and very generally after death, and especially in the true tubercular form, and which will also readily account for the death of the patient, the usual appearances have been found indicative of extensive disease of the larynx, the bronchial tubes, and the substance of the lung. The mucous membrane of the larynx and trachea has been discovered thickened, and studded with small ulcers; and in the lungs also have been found, frequently, crude or softened tubercles. In the abdomen the ravages of the disease are also apparent; marks of inflammation of the mucous membrane of the intestines, enlarged Peyerian glands, the intestinal tubercles ulcerated, and the mesenteric glands enlarged and tubercular, have been observed. All which appearances would show a diseased action induced in various textures of the body from some as yet inexplicable depraved state of the blood, or, as some have appropriately called it, a blood poison.

## CAUSES.

As of the nature of the disease, so of its causes but little is known. It is evidently dependent, as has been already stated, on some vitiated state of the blood, and that acquired in many instances, as has been clearly ascertained, by hereditary predisposition. In many cases, however, it occurs where no such predisposition can be traced; and in persons whose parents were perfectly healthy, and who evinced during their lives no trace of the disease whatever. In these cases we are led, therefore, to seek for other causes to account for it. Some writers are inclined to think that the disease is contagious; but mostly all who have written on the subject, and amongst these some of the ablest, entertain a contrary opinion, asserting as a positive fact that persons have been known to cohabit as man and wife, and for many years, without the healthy one of the parties suffering in the least from the disease. As exciting causes of the disease in the predisposed, and what in the opinion of some may produce it in others where no inherent tendency to it exists, many are enumerated. I might mention the exposure to the extremes of heat and cold, and the material interruption thereby of the function of the skin—one of the chief causes to which cutaneous disease, in many forms, is ascribed. The long-continued use of certain kinds of diet, such as fish or other articles likely to contaminate the blood, some are of opinion may also produce it; whilst others, and with equal confidence, are disposed to ascribe it to living in a state of filth and dirtiness, and in the almost total neglect of the ablution of the body.

Perhaps to account for the disease the two may be taken together; and the possibility of its originating from such causes as unwholesome food and want of proper cleanliness, seems greater when we consider that the disease is met with much more frequently amongst the poor than the rich, and consequently amongst those who from necessity are obliged to live on such unwholesome food, and who have not, like those in better circumstances, so readily within their reach the means of cleanliness. To climate we might also be led to ascribe some influence in the production of the disease,



occurring, as it does now, more frequently, if not almost always, as later observations seem to show, in warm countries. But here, again, we are met with the fact, that, frequently as it happens, diseases similar, if not identical, are met with in cold countries, such as the northern parts of Europe; it proves by their occurrence in diametrically opposite latitudes, that there must be some common cause or causes of the disease independent of climate. In that respect, then, it may be said, no satisfactory conclusion can be drawn as to the cause of the disease. Indeed, with regard to the causes of the disease, predisposing, remote, or exciting, it must be admitted we can at best form but a very vague idea or conjecture. Dr Copland, from his observations of the disease in Africa, and from other sources of information, believes that "it owes its origin principally to the use of smoked, wind-dried, and semi-putrid or rancid flesh meats and fish, and of rancid oils; to the want or disuse of salt; to the use of unripe or spoiled or mouldy grain; to the want of vegetable productions as articles of diet; to inattention to personal cleanliness; to the nature of the clothing; and to the contact of the matter discharged from the leprosy sores, when the disease was far advanced, and when the matter came in contact with the skins of those who were already predisposed to it, by the modes of living alluded to, and by want of cleanliness."

#### DIAGNOSIS.

Having already adverted to the various diseases to which the term Leprosy has been applied, and shown the incorrectness of the nosological arrangement adopted by different writers respecting it, classifying, as they have done, under one name, diseases of perfectly opposite natures, I need add but little more under this head. There are few diseases with which Tubercular Leprosy is likely to be confounded. And perhaps it may be of more advantage, under the head of Diagnosis, to notice especially, at greater length, the diseases which are allied to it, and the slight shades of difference between them; and afterwards those from which, although resembling it, it in reality does differ. The Ele-

phantiasis Græcorum, from the accounts of it given by writers of the middle ages, appears clearly to have been the disease under consideration, and the one to which the term Leprosy was strictly applied; and the disease described under the same name, as it occurs in Iceland, the Shetland Isles, Madeira, Africa, and the East and West Indies, was also evidently closely allied to it, if not identical with it. And if shades of difference have been observed in the diseases, as occurring in these different parts of the world, these might most probably be traced to endemic causes, and other circumstances, such as peculiar modes of living, habits of the people, &c. The Crimean leprosy, described by Pallas, Gautier, and Martius, was also evidently identical with the true Tubercular Leprosy. The *Lepra Anæsthetica*, which I have described as a form of Elephantiasis Græcorum, differs, it must be admitted, in some respects from the Tubercular Leprosy. It affects the extremities more particularly, from which circumstance it has also been called the leprosy of the joints; and it is characterised especially by want of sensibility in the parts affected, and by ulcerations on the hands and feet, followed by the gradual dropping off of the fingers and toes. But I have thought fit, notwithstanding, to include this form of disease under the name of Tubercular Leprosy; for if not in the first instance, or at the commencement of the disease, strictly tubercular in nature, it frequently becomes so, and assumes all the appearance in the face and other parts of the body which characterise that disease. And perhaps, as Dr Copland well observes, these are merely modified or extreme cases in which the anæsthesia and ulceration of the extremities are the prominent phenomena, and the tubercular changes less manifestly produced, or at a more advanced period of the malady, the one disease, in his opinion, insensibly passing into the other. We may therefore with propriety regard it more as a modification of the disease, than a different malady. There is a disease met with in Norway somewhat resembling the Tubercular Leprosy, “the Radesyge;” but in character it has no resemblance to the leprosy of the middle ages, nor is that disease to be confounded with the “*spedalskhed*,” also occurring in Norway, and which agrees

with it precisely. But the disease from which especially Tubercular Leprosy needs to be distinguished, is the tubercular venereal affections.

The tubercles of syphilis are red or livid, hard, or developed in the substance of the corion; not insensible, and usually consequent upon venereal ulcers, and not attended by the loss of the hair on the parts which they affect. In this country, at the present time, Tubercular Leprosy occurs but seldom: Dr Willan says he had seen but two cases of it; and Mr Erasmus Wilson admits that his own experience does not extend far beyond this; but that, although the cases which had come before him were few in number, they had happily embraced the leading features of both forms, and had enabled him to comprehend the disease, and carry his experience into a wide field of inquiry; namely, into that of the existence amongst us even now of traces of the disorder, in a comparatively insignificant, but nevertheless unmistakeable shape. Two cases of recent occurrence are related, however, in the "Lancet" of 30th April 1859, of the disease in both the forms described. They occurred in Guy's Hospital. The patients were both whites, and natives of the West Indies. The one case, under the care of Dr Wilks, appears to have been of something of a mixed character, the tubercular form of the disease having supervened to some slight extent on the anæsthetic, the form in which it had first appeared. That under the care of Dr Gull, and which had existed only about sixteen months previous to the admission of the patient into the hospital, was more strictly tubercular, but peculiar in some few respects, and which it may be proper to notice here. The trunk of the body, it appears, was more affected than usual, whilst, at the same time, sensation there was perfect. The sexual desire, a matter respecting which medical writers on the disease are much divided, and to which I shall have occasion to refer when I describe the disease as it occurs in the Cape of Good Hope, was at first excessive, but afterwards quite lost; the testes were not wasted. The anæsthesia also, it would appear, was not permanent in any part of the body, but shifting. And the femoral tumour, which Dr Adams had described as a symptom of

Elephantiasis in Madeira, and which I shall also have occasion to notice hereafter, became observable, though unattended with pain, a few weeks after the publication of the case.

### PROGNOSIS.

Of Tubercular Leprosy, a most unfavourable prognosis must ever be formed. Notwithstanding the great variety of remedies that have been employed from time to time in the treatment of the disease, it may still be regarded as incurable, and be classed with propriety amongst "*the opprobria medicinæ*." Its progress, generally speaking, is slow, and much may be done by art to retard it; and the unfortunate subject of it may linger under it for many years, and even with considerable enjoyment of life. In the early stage, some little impression may be made upon it by medicine; but even then the effects are too often very transient, and the disease soon returns with still greater severity. At first it may be confined to the skin and the cellular tissue more particularly; but ultimately it implicates textures of more importance to life, the mucous membrane of the air-passage, or the substance of the lungs, or the living membrane of the intestines and the glands embedded in it; and under its ravages in these important parts, and in spite of the physician's best efforts, the patient gradually sinks.

### TREATMENT.

This may be said to comprehend almost all the remedies employed for the cure of cutaneous diseases generally. All have been tried, but it would appear, except in the early stage of the disease, with but little benefit. That the disease, however, is curable in the commencement, is the opinion of some, and amongst others of Dr Copland, who himself had opportunities of seeing the disease in different parts of Africa, although not, as he is candid enough to admit, of observing the effects of treatment. In the advanced stage of the disease, however, little is to be expected from medicine. Haller states justly, and as the result of



his experience, "Confirmata Elephantiasis non curatur"—a sentiment which most, perhaps, who have had opportunities of treating the disease would readily adopt. In attempting the cure of the disease, however, it is scarcely necessary to observe that every cause supposed to have an effect in producing the disease,—such as unwholesome food or diet, poor living, want of proper cleanliness, &c., should be avoided, and there should be substituted instead, good, wholesome, and nourishing food, the use of warm baths, and regular exercise. As to therapeutic means, the animal, the mineral, and the vegetable kingdoms may be said to have been ransacked. By some the chloride of mercury and the bichloride, in combination with sarsaparilla, have been highly extolled; whilst others, relying more upon antimony as a curative mean, have given it as their opinion that mercury is positively injurious. In large doses, all seem to agree that it aggravates the disease. Arsenic has also been strongly recommended in India; but Dr Ainslie, who practised many years in that country, was disappointed in the use of it, and found more benefit from small doses of mercury for a time, with the use of warm baths simultaneously, and afterwards following up with a course of mineral acids. But of all the remedies he employed, he says he found none so efficacious as alteratives and deobstruents, as the milky juice of the *Asclepias gigantea*, given along with sulphur. In one case of the anæsthetic form of the disease, when all other remedies had failed, Dr Copland employed with success the chlorate of potash in decoction of bark, followed up by the iodide of potassium, with liquor potassa, in the compound decoction of sarsaparilla. And M. Biëtt, of Paris, in a patient in the advanced stage of the disease, when, as in Dr Copland's case, many powerful and energetic means had been tried in vain, or at least with no permanent benefit, states that he very much improved by being restricted to a milk diet and mucilaginous drinks, along with small doses of opium, and baths to allay irritation. Various other remedies have been used. I might mention, by Dr Heberden, of Madeira, bark and the mineral tonics; by Dr Skilling, of Surinam, stimulant vapour baths and spirituous frictions, probably under the impression that the disease

was connected with deficient vitality or imperfect circulation in the affected parts. And Dr Rayer, from having observed that the subsidence of individual tubercles was generally preceded by a degree of inflammation, ingeniously enough proposed to excite inflammation on the skin in the affected part by the application of ammoniacal liniments, tincture of cantharides, &c. Iodine has also been strongly recommended, and used with benefit.

About eight years ago, an account of the employment of the juice of the *Assacou* (the *Hura Brasiliensis* of Martius), was transmitted to the French Government from one of the French consuls in Brazil. It had been used with some benefit; but as the disease is prone to return, it requires the confirmation of time.

But, in conclusion, it may be said, that for the cure of this disease, the appropriate remedies are yet to be discovered.

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## ON LEPROSY AS IT PREVAILS AT THE CAPE OF GOOD HOPE.

Leprosy, as it occurs at the Cape of Good Hope, it would appear, corresponds precisely with that disease as described in the preceding pages, and is met with in the two forms of Elephantiasis Tuberculosa and Elephantiasis Anæsthetica.

It is not generally preceded by any particular premonitory symptoms; and attention is seldom directed to it, either by the patient himself or his friends, until there appears a marked change in his countenance, remarkable especially in its breadth, and dependent upon tubercular enlargements, with a slight change in the colour of the skin immediately covering them—in white men of a dark red or purplish hue, and in blacks of a colour somewhat darker than the natural colour of the skin. These tubercles are met with in various parts of the face, but more particularly in the forehead, the

cheeks, the *alæ nasi*, and the lobes of the ears ; and as they increase, are separated from each other by deep furrows. They are sometimes elevated and pointed, as in Bateman's plate of Elephantiasis ; but more generally they are soft, round, oval, or irregular, and elevated but little above the level of the surrounding skin. The eyebrows, from the same cause (morbid deposits), become more particularly prominent, and the hairs gradually drop off them. The eyelashes also fall off, and the hair on the other parts of the body, with the exception of the scalp, where it is usually retained ; and early in the disease, the countenance altogether assumes a peculiarly ugly and hideous appearance. Changes somewhat similar occur also in the fore-arms and hands, and on the legs and feet ; and the skin covering these parts becomes harsh, dry, and somewhat insensible, the tubercles on these occasionally suppurating and healing again. The hands posteriorly appear puffed and swelled ; and in white persons, the skin covering them is of a reddish colour, whilst the palms are usually dry and shrivelled. The fingers are thickened, impeding to some slight extent their movements ; they are usually partially bent, sometimes permanently contracted, and the sense of touch materially blunted. The voice becomes hoarse and nasal ; and on inspecting the mouth, small tubercles are also occasionally observed on the inside of the cheeks, at the root of the tongue, and on the fauces. The nose becomes large and misshapen ; the lining membrane not unfrequently ulcerates ; and at times, by the progress of ulceration, the septum is destroyed, and considerable deformity the consequence. From it, as also from the mouth, as the disease progresses, there is usually a most unpleasant factor. The trunk of the body is seldom affected, even in advanced disease ; the ravages of it, as far as outward observation is concerned, being confined more particularly to the face and extremities. In the mucous membrane of the air-passages, as shown in an early stage of the disease by the hoarse and nasal voice, the morbid deposits produce important changes. These become still more serious : the membranes themselves become destroyed : they soften and ulcerate ; the patient's voice becomes more and more feeble and husky, if it be



not lost altogether; his strength becomes more and more undermined, and at length death puts an end to his protracted sufferings.

With regard to the femoral tumour to which Dr Adams first drew attention as being found in patients suffering from Elephantiasis in Madeira, and which Dr Kinnis also found as a symptom of the disease occurring at the Mauritius, from the information which I have received, it does not appear to be a usual concomitant of this disease as it occurs at the Cape. Dr Minto, the medical superintendent of the Leper Institution at Cape Town is of that opinion; and my father himself, on the occasion of a visit which he made to the Institution on the 27th of July 1858 (which I may observe is on an island at the mouth of Table Bay, about eight miles from Cape Town), could only learn from a few of the patients that they occasionally suffered from such a symptom, and that the swelling usually disappeared again of itself; and as those patients who had occasionally observed the appearance of such a swelling were lepers suffering from the anæsthetic form of the disease, he was disposed to conclude that it was a symptom occurring sometimes in the case of ulcerations in the feet, and from the unhealthy matter absorbed exciting inflammation in the glands of the groin in passing through them.

Another symptom respecting which medical writers on leprosy are still divided, is the *libido inextinguibilis*; some asserting that it is a peculiarity of the disease, whilst others entertain the opposite opinion, and are inclined to think that the sexual powers of lepers are impaired. The truth will be found to lie perhaps between the two opinions. The disease, it would appear, seldom occurs under the age of puberty, and thus few opportunities are afforded of ascertaining the truth of what has been asserted, that the evolution of the genital organs is retarded by the poison of leprosy. But that lepers possess the ordinary sexual desires, and may propagate their species, is a well ascertained fact at the Cape, from the very circumstance of the disease being in many instances hereditary. Dr Minto, I may state, however, inclines to the opinion that lepers have unusually strong sexual desires—an opinion, it may be supposed, well

grounded, although, from intercourse between the sexes being strictly prohibited, it might be supposed he could have had but few opportunities of coming to a correct conclusion on the subject.

The anæsthetic form of the disease, affecting the extremities, commences occasionally very insidiously, and without anything particular to excite the fears of the subject of it, or to induce him to seek medical advice, until the peculiar numbness or insensibility of the parts affected, characteristic of the disease, presents itself. It is, however, more generally preceded by acute pains in the course of the nerves of the limb affected, dependent most probably on inflammation of the nerves or the neurilemma (the result of some morbid deposit); and the changes of structure which follow that inflammation, so interrupting the supply of nervous energy, will probably account satisfactorily for the anæsthesia, the pathognomonic symptom of the disease. The disease may commence in one arm or one leg, but the two are most commonly simultaneously affected. The anæsthesia at first usually affects only certain parts, as for instance one or two of the fingers or toes; or it may occur more extensively in patches on the hand or foot, or the face, arm, or leg, and which are generally circumscribed. To these symptoms soon succeeds a marked change in the appearance of the hands; they become puffed, and the lower phalanges of the fingers are observed to be permanently flexed. At this stage of the disease also, if both arms or legs are not affected, on inspection, atrophy of the muscles to some extent will be apparent in the diseased limb, to be accounted for, like the anæsthesia, from the diminished supply of nervous energy. In this state the disease may be for a time stationary; but some bullæ or vesicles appear over the metacarpal or metatarsal bones, over the phalange of the fingers or toes. These burst, discharging a darkish fluid, and either heal or are covered for a time by a crust or scab. More generally, however, ulceration follows the opening of these vesicles, or the falling off of the scabs, spreading gradually deeper, exposing the bones, and giving rise to their destruction and their gradual separation. And what is remarkable, notwithstanding the falling off of the lower

phalanges in the hands and feet, the lower end of the adjoining phalanx becomes covered by a nail, or the vestige of one, in all probability a new formation; and as the bones drop off one by one, a perfect cicatrix follows, and for a time the disease seems arrested. Gradually, however, the same process is renewed; bullæ again appear, followed by ulceration, and the death and separation of the higher phalanges, or, it may be, of the metacarpal and metatarsal bones; until at last the patient, if not cut off by diarrhœa or dysentery,—not unfrequent terminations of the disease,—becomes more and more emaciated daily, and sinks at last from sheer exhaustion.

The two forms of the disease described, although a contrary opinion has been expressed by some, are occasionally found combined in the same person. On the occasion of my father's visit to the Leper Institution, amongst the patients which he examined, he saw two where both the tubercular and anæsthetic character were well marked, the former in both cases having supervened upon the latter. The one was a Hottentot, by name Abram; he appeared to be about thirty-five years of age, and had been a patient in the Institution for a period of six years. His face was studded with tubercular enlargements; his eyebrows were prominent and bare, and the eyelashes were partially gone; the lobes of his ears were also thickened and swelled from tubercular deposit. His voice was hoarse; but on examination of the mouth, nothing unusual was observed. Both legs to above the knee were swollen, scabby, and showed marks of recent ulcerations. In the left foot the lower phalanx of the first toe was gone, and on the right the lower phalanx of the fourth or little toe. In the right hand all the lower phalanges of the fingers were gone; and in the left the lower phalanx of the middle finger. The disease, he said, began in the extremities some years ago, and it was only very recently that his face had become affected with tubercles.

The other case was that of a Hottentot woman, by name Klaatje, and apparently about 36 or 38 years of age. To the best of her recollection, she had been the subject of leprosy for a period of six years; but she had only been in the

Institution about one year. Her face was enlarged and tuberculated ; her nose flattened and misshapen, and with a deep furrow or wrinkle across it, as if the septum had been partly destroyed ; the ears were also tuberculated ; and the hairs on the eyebrows, which were prominent, and the eyelashes, were gone. Her voice was hoarse and nasal, the breath offensive ; and, on looking into her mouth, the uvula was observed relaxed, and there were several small tubercles at the root of the tongue. Along the fore-arms were many tubercles and marks of extensive ulcerations. Both hands were swollen, thickened, and cracked ; and particularly, numb and insensible. In the right hand the thumb was permanently flexed and thickened, the two lower phalanges of the first, the ring and little finger, were gone ; and the middle finger, in which all the phalanges were perfect, was permanently flexed. In the left hand, she had lost the little finger and two phalanges of the first and middle fingers, the lower end of the remaining phalanx on each of these fingers being covered by a nail. In both feet, which were swollen and thickened, all the toes were gone. The disease, she stated, began first in her feet, about six years ago, then in her hands, and only comparatively lately in her face, although she could not recollect the precise time. She had had six children ; four were still living, and had till then evinced no symptoms of the disease. The youngest, about a year old, was still at the breast, having been born shortly before she came to the Institution. These two cases, here given at length, tend to prove, what I have stated, that both forms of the disease may exist in one and the same person ; and Dr Minto, in a report with which I have been kindly favoured, of date 23d August 1858, states, that, of the total number of patients in the Institution at that date, namely 54, no less than 8 showed symptoms of both forms of the disease.

#### AGE.

With regard to the period of life at which the disease commences, although it does occur occasionally under the age of puberty, it has been estimated, including such as



have a hereditary predisposition to it, from the age of 18 to 35. It is met with, however, at still more advanced periods of life. The following is a return of the ages of the lepers in the General Infirmary, Robbin Island, on the 23d August 1858 :—

	Under 20.	Above 20 and under 30.	Above 30 and under 40.	Above 40 and under 50.	Above 50 and under 60.	Above 60 and under 70.	Above 70 and under 80.	Average age.	Total No. of patients.
Males,...	3	12	15	3	1	2	1	34	37
Females,	2	1	6	4	2	1	1	40	17
Total,	5	13	21	7	3	3	2	„	54

J. C. MINTO, *Surgeon, Supt.*

#### CAUSES.

At the Cape, Elephantiasis is endemic, but, as, in other parts of the world where it occurs, the real cause or causes upon which it is dependent are still unknown. We would naturally be led to trace it in connection with climate, the habits and customs of the people, or their mode of living; but, as it respects all these, we can find nothing satisfactory to account for it. From diseases similar or identical occurring in perfectly opposite climates, we can discover no climatic or local agency to which to attribute them; and so far as regards the habits of the people, or their mode of living, if we found the disease confined to any particular class, say the rich or the poor, we might, in endeavouring to trace a cause for them, ascribe them, in the one instance, to luxurious living and sedentary habits, and, in the other, to unwholesome diet and the probable want of cleanliness. But such is not the case. It is true that, in that part of the world, as the reports of the Leper Institution from time to time clearly show, the disease occurs more frequently amongst the poor and the lower classes than amongst the rich; and, in the former, perhaps unwholesome food, and the neglect of cleanliness, may do much to aggravate the disease. But attacking, as it does, all classes of the community, the European, the native of European extraction, the Negro, and the

Hottentot, there must be some common spontaneous or local cause to which to trace it. At the present time, my father has a case under his care, of a white woman, where the disease supervened on psoriasis, affecting various parts of the body, and from which she had suffered for years; as the latter disease began gradually to disappear, tubercular leprosy succeeded, and she is now suffering from that disease, well marked. That the disease is hereditary is a well ascertained fact; and to this, whatever may have been the original cause of it, is to be traced the comparatively greater frequency of the disease of later years than at earlier periods of the history of the Cape. The children of lepers are usually born healthy, and they seldom evince any symptoms of the disease inherited within the age of puberty, and often until a much later period of life; whilst some escape it entirely, the disease passing over one generation, to appear, as occasionally happens, in the succeeding one, with more intensity. With regard to the contagious nature of the disease, such an opinion, at the Cape at least, is no longer entertained; the fallacy of such an opinion has long since been established. Married persons, one of whom being afflicted with leprosy, have been known to live there under the same roof, to eat at the same table, and to cohabit together for years, without the healthy party contracting the disease, or evincing, in after life, the slightest symptoms of it. It is true, means are adopted there by the Government to make separate provision for lepers, as in other parts of the world; but such provision is made, not to prevent the spread of the disease by contagion, but that there may be a home for the subjects of this loathsome disease, and to prevent its extension, as far as possible, by hereditary transmission.

### RACES.

It is also an interesting subject of inquiry, and one which, in writing on the subject of leprosy, it may be expected I should touch upon, especially as the inhabitants of the Cape of Good Hope are composed of many races, whether the disease prevails amongst any class in particular.

That the disease is endemic at the Cape of Good Hope would appear from the circumstance of its having had the

attention of the Dutch Government directed to it at an early period of the history of the Colony ; and from what observations show at the present time, it would seem to prevail more generally amongst the Hottentots, the aborigines of the colony. This seems to be borne out by facts and the experience of the medical men of the country. But though more generally met with amongst them, it is by no means confined to them. It occurs also amongst the blacks or negroes, and the coloured people generally called Africanders, the descendants of the former slaves ; and amongst the inhabitants of European extraction, though certainly amongst them much more seldom ; and occasionally, though very rarely, it is met with in Europeans. My father, during his long residence at the Cape, has only met with two or three cases where Europeans were attacked with the disease. The following is a statement, also kindly favoured by Dr Minto, of the different races, the subjects of the disease in the institution on Robbin Island, on the 23d August 1858:—

MEN.					WOMEN.				
Whites.	Blacks or Negroes.	Africanders.	Hottentots.	TOTAL.	Whites.	Blacks or Negroes.	Africanders.	Hottentots.	TOTAL.
3	10	11	13	37	...	1	4	12	17

To this statement, in forming our opinion on the subject, some weight may be attached. But I think it necessary to state, that it can scarcely be considered as a correct criterion of the extent to which the disease prevails amongst the different classes of the inhabitants ; inasmuch as those who have the means themselves, or who are at all respectably connected, and whose relatives are able to assist them, are generally accommodated, if not under the roof of their immediate friends, in some secluded or retired situation on the mainland ; and it is only perhaps the really poor, and those whose friends, from their dread of the disease, regarding it as contagious, and from its loathsome character, are afraid to retain them with them in their houses, who are



sent to the institution on Robbin Island. This statement would also show, and observation seems to confirm it, that the disease is more prevalent amongst men than women; but it can scarcely be received as a certain proof to that effect, when it is considered that the relatives and friends of lepers would at all times be more reluctant to send females than males to such an establishment. Dr Fiddes, to whom I have already referred as having given an account of the disease as it prevails in the island of Jamaica, observes that it is found there in the largest proportion amongst the Hebrew population, arising, as he thinks, from some innate tendency to the disease in that race. There are, it would appear, many Jews residing there; but from the information which I have received, the disease at the present time seems to be unknown amongst them.

#### TREATMENT.

As curative means, a great variety of remedies has been used at the Cape. I might cite warm baths, medicated baths of various kinds, mercury in a mild form in combination with antimony, sometimes carried to ptyalism, the arsenical solution, and the preparation of iodine. All these have been used by the medical practitioners of the country, but with no permanent benefit. Of all the means employed, however, the last perhaps has been found the most efficacious, in the form of tincture, and in combination with mercury and arsenic, as in Donovan's solution. By the use of these in the early stage of the disease, sometimes a marked impression has been made upon it. The tubercular enlargements on the face and other parts of the body have subsided, and so favourable has the change altogether been, that the medical attendant has been flattered that the disease was actually giving way. But therein he was doomed to disappointment; for no sooner has the medicine been discontinued, than a change for the worse has taken place. The disease has gradually progressed, and sooner or later the patient has succumbed under it. But besides these, many other remedies have also been used—the liquor potassæ, the milk of sulphur, the decoction of sarsaparilla

with the bichloride of mercury, the iodide of potassium, &c. ; but, like the others, all with doubtful success. Nor must I omit mentioning the *Hydrocotyle Asiatica*, which, it is said, has been used with good effect in the disease. To it a fair trial was given, in the form of decoction, by Dr Minto's predecessor, Mr Birthwhistle, for many months and in both forms of the disease ; but without any benefit whatever.

In short, it would appear that at the Cape, to the present time, as in other parts of the world, Leprosy, as it occurs there, is still an incurable disease, and one which has hitherto baffled the skill of the physician.

In further illustration of the subject are appended three Plates, two containing sketches of lepers suffering from the tubercular form of the disease, taken from photographic likenesses of patients in Robbin Island Institution, with short notes of their cases ; and one intended to show the ravages of the disease, in the anæsthetic form, in the extremities—also with a short account of the case to which it refers. The patients were all people of colour.

## EXPLANATION OF PLATES.

## PLATE I.

Fig. 1. PETER ROBERTS, a man who has been suffering from the disease for a period of nine years, age unknown. The whole face wrinkled, and studded with tubercles; the nose enlarged and flattened. The lips swelled, and several of the tubercles on them and on the chin in a state of ulceration. Hands swelled and numb, voice hoarse and nasal.

Fig. 2. ANDRIES MORKEL, who has been labouring under the disease eleven years. Forehead, cheeks, nose, and lips, studded with tubercles; and face altogether greatly wrinkled. Hair of eyebrows and the eyelashes gone. Hands swelled, rough, and scaly, and particularly numb. Voice hoarse and nasal.

## PLATE II.

Fig. 3. BELLA KLAASE, a woman, aged in appearance; has been the subject of the disease for four years. Forehead, nose, lips, and ears, covered with tubercles; the nose flattened, and the tubercles on it large and elevated. The hairs of the eyebrows and the eyelashes gone; eyes small from the enlargements in the palpebræ and the eyebrows. Hands much swelled and numb, and the skin covering them harsh and scaly. In the course of the fore-arms are also several tubercles of a slightly reddish or livid colour; feet not much swelled, but as with the hands, the skin covering them is rough, dry, and scaly. Voice hoarse.

Fig. 4. ELIZABETH KAMFER, a woman, 18 years of age, has suffered from the disease three years. Forehead wrinkled, and studded with tubercles. There are also tubercular enlargements on the cheeks, nose, lips, and ears. The nose itself enlarged, and the lips swelled. Tubercles also in the course of both fore-arms. Hands swelled and numb; and ring and little fingers of right hand contracted. Feet swelled, and skin covering them rough, hard, and fissured. Voice hoarse.

## PLATE III.

In this plate, by the letters A and B are represented the hands, and by C and D the feet, of a woman named Antoinette Platsses. She is 44 years of age. How long she has suffered from the disease is uncertain; but she had been a patient in the Institution fourteen years, at the time of my father's visit to it. The fingers on both hands are gone, and the stumps appear as though they had been amputated. On the right hand there is an ulcer exposing the lower ends of the metacarpal bones of the ring and little fingers.

In the left foot all the toes are gone except the great toe, and it has an appearance as though partially dislocated. On the sole, and over the metatarsal bone of the great toe, is a foul spreading sore.

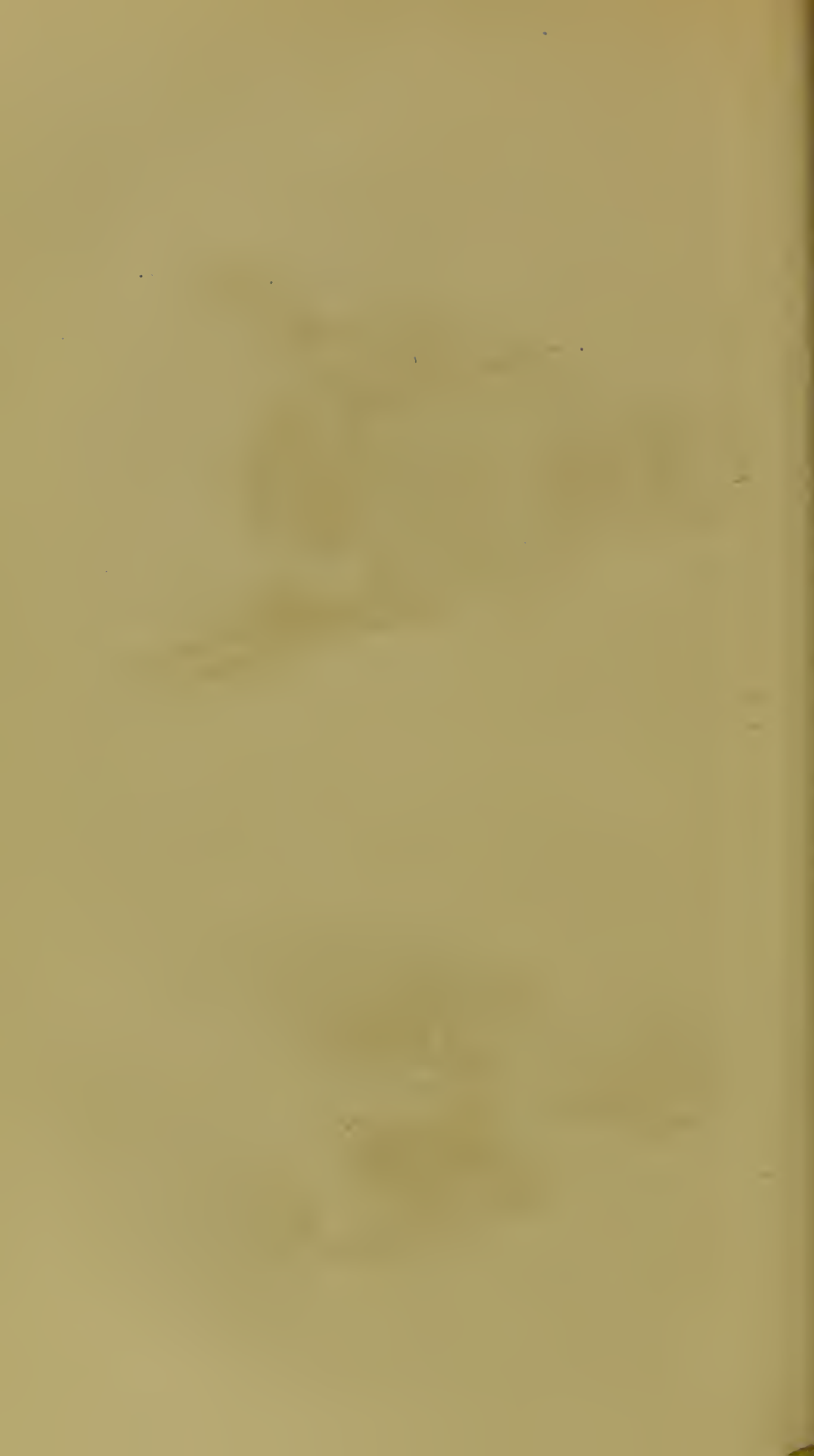
Right foot more natural in appearance, but the toes all gone, except the great toe, and first phalanx of the first toe. There is also on it a dirty-looking ulcer over the metatarsal bone of the great toe.

Nº 1.



Nº 2.





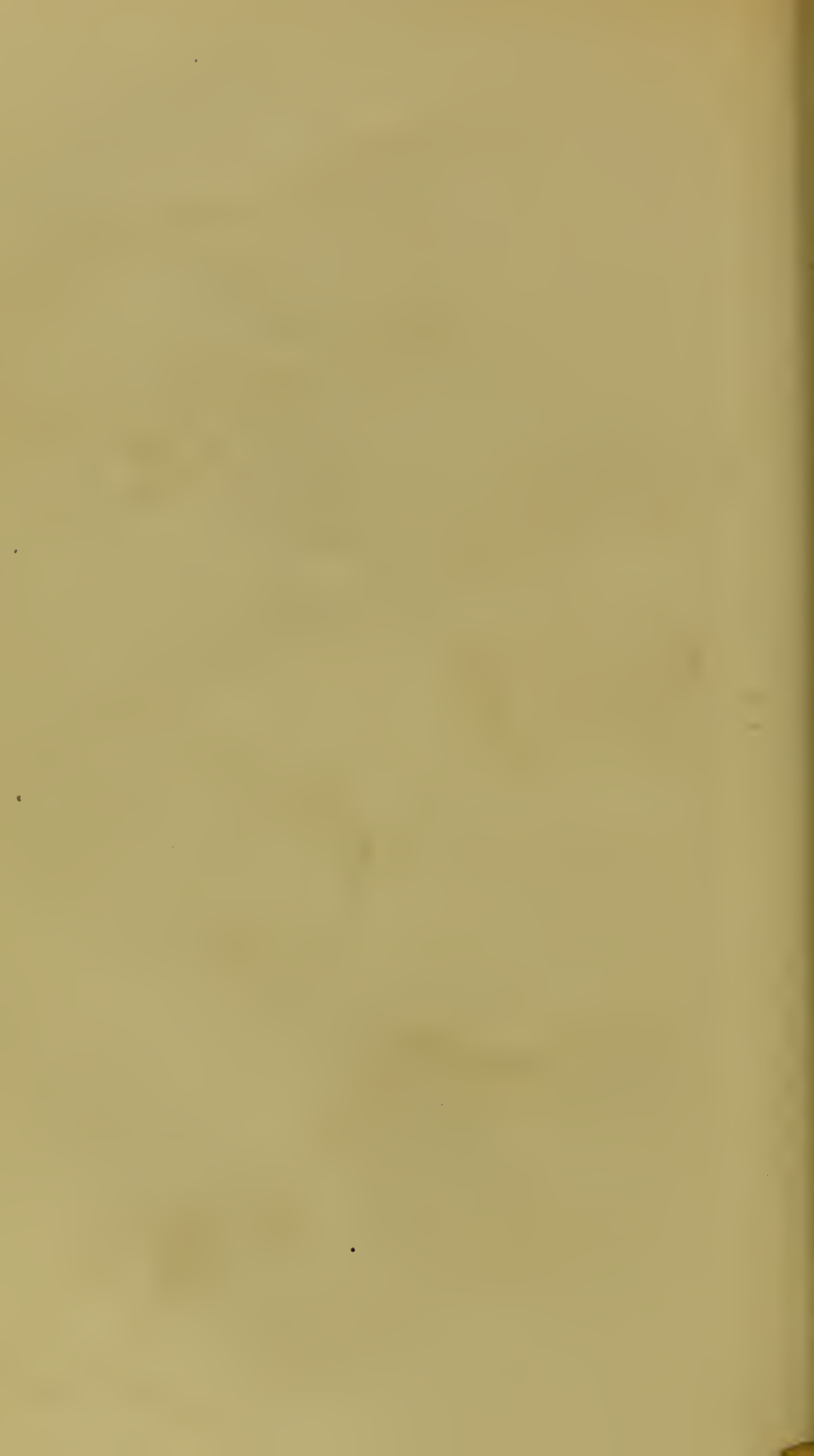




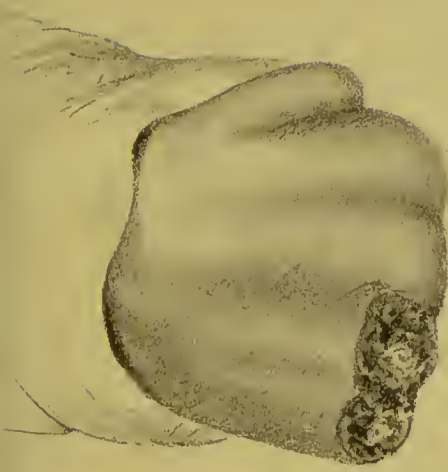
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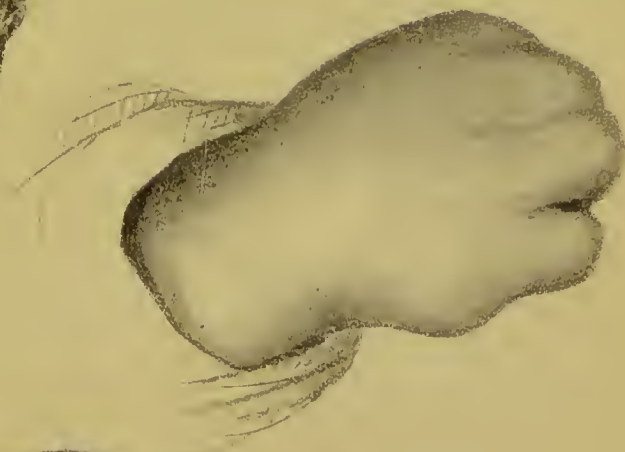
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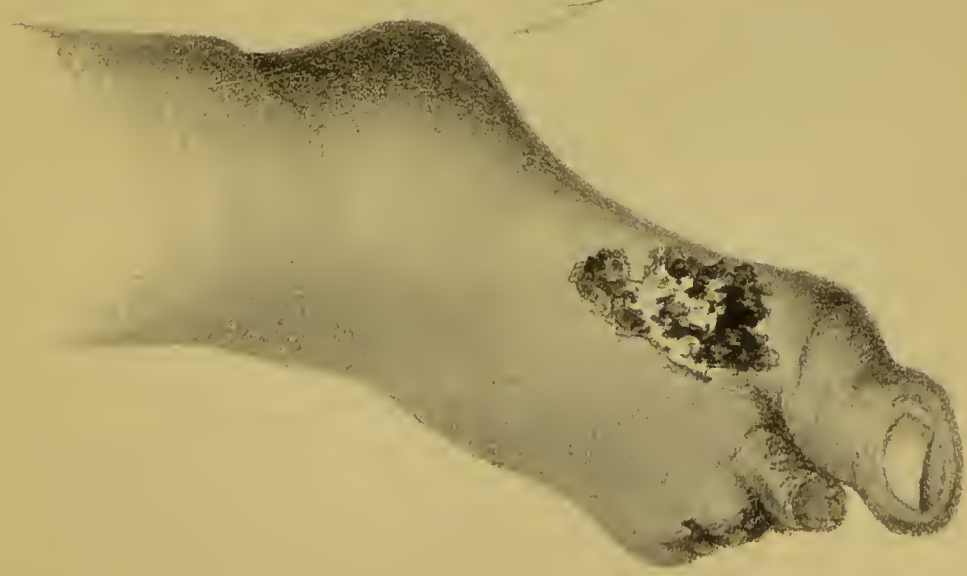




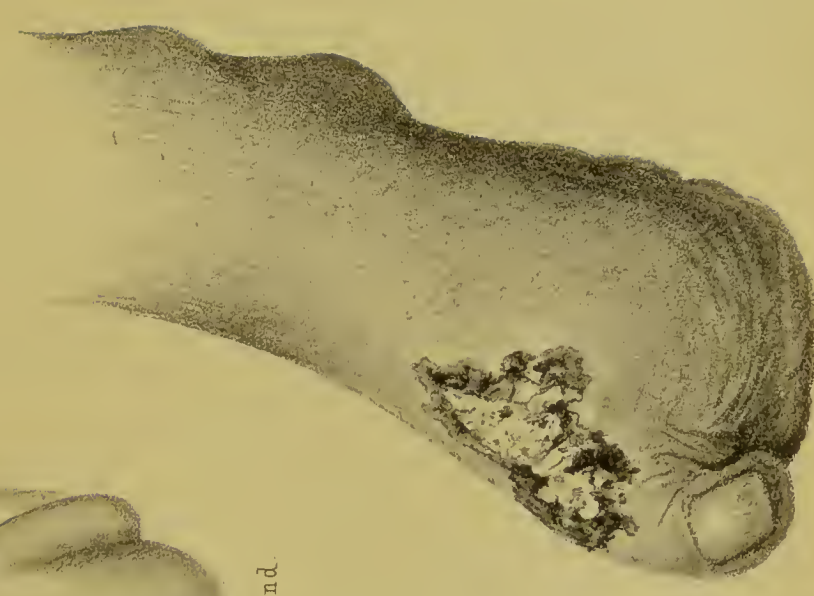
A Right Hand.



B Left Hand.



C Right Foot.



D Left Foot.

